

10/532772

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number  
**WO 2004/037335 A1**

(51) International Patent Classification<sup>7</sup>: A61M 39/00

(21) International Application Number:  
PCT/GB2003/004566

(22) International Filing Date: 22 October 2003 (22.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0224515.7 22 October 2002 (22.10.2002) GB

(71) Applicants and

(72) Inventors: **BICKFORD SMITH, Philip** [GB/GB]; Cliffe House Cragg Wood Drive, Cragg Wood Drive, Rawdon LS19 6LG (GB). **WAGSTAFF, Alan** [GB/GB]; 20 Woodbine Avenue, Idle, Bradford BD10 8RD (GB).

(74) Agents: **HARRISON GODDARD FOOTE et al.**; Fountain Precinct, Balm Green, Sheffield S1 2JA (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Declaration under Rule 4.17:

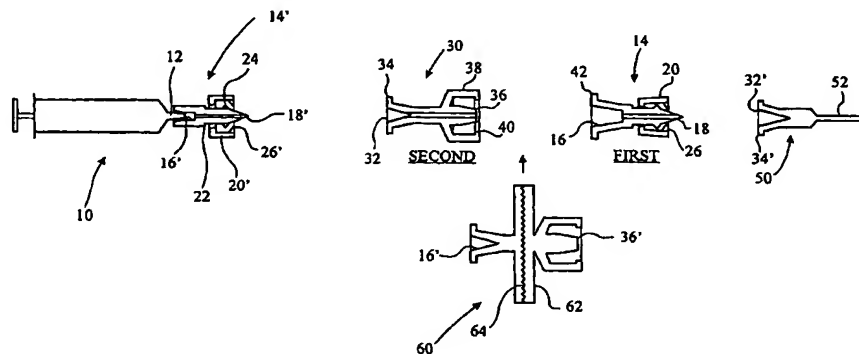
— of inventorship (Rule 4.17(iv)) for US only

#### Published:

— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **MEDICAL SMALL-BORE TUBING SYSTEM AND KIT**



(57) Abstract: A small bore tubing system employs affordance to assist distinction between different applications of medical tubing and their interconnections, as well as unique keying to avoid misconnection between tubing of different applications. Said affordance is by shape of a grip on connectors of the system, which shapes provide both visual and tactile application-specific affordance (eg. spine and ribs to indicate neuraxial application). Further mechanism affordance ensures appropriate connection mechanism is employed. A kit of components of a medical small-bore tubing connection system has a first converter (14), a second converter (30), a syringe (10) and a needle (50). Each converter (14, 30) has a through bore, a standard female (16) and male (36) connector, and a "different" male (18) and female (32) connector element. The first converter (14) has a latching mechanism (control ring) (20) on the different male connector (18) and which is adapted to engage a flange (34) of the corresponding female connector. Said standard connectors are 6% luer connectors. To the standard outlet of the syringe is permanently secured a first converter (14'). The hypodermic needle has said different female connector (32') formed directly thereon. The control ring comprises a threaded (26) collar and said flange comprises thread elements (34). The control ring is axially slidable between limits (22, 24), and is rotatably free, on the first converter.

WO 2004/037335 A1